

1
SEQUENCE LISTING

<110> Moore, et al.

<120> Keratinocyte Derived Interferon

<130> PF482

<140> Unassigned

<141> 1999-07-21

<150> 60/093,643

<151> 1998-07-21

<160> 21

<170> PatentIn Ver. 2.0

<210> 1

<211> 1170

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (35)..(655)

<400> 1

```

ccacgcgtcc gggatttttt agcttgcaaa aaaa atg agc acc aaa cct gat atg 55
                                Met Ser Thr Lys Pro Asp Met
                                1                      5

att caa aag tgt ttg tgg ctt gag atc ctt atg ggt ata ttc att gct 103
Ile Gln Lys Cys Leu Trp Leu Glu Ile Leu Met Gly Ile Phe Ile Ala
      10                      15                      20

ggc acc cta tcc ctg gac tgt aac tta ctg aac gtt cac ctg aga aga 151
Gly Thr Leu Ser Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg
      25                      30                      35

gtc acc tgg caa aat ctg aga cat ctg agt agt atg agc aat tca ttt 199
Val Thr Trp Gln Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe
      40                      45                      50                      55

cct gta gaa tgt cta cga gaa aac ata gct ttt gag ttg ccc caa gag 247
Pro Val Glu Cys Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu
      60                      65                      70

ttt ctg caa tac acc caa cct atg aag agg gac atc aag aag gcc ttc 295
Phe Leu Gln Tyr Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe
      75                      80                      85

tat gaa atg tcc cta cag gcc ttc aac atc ttc agc caa cac acc ttc 343
Tyr Glu Met Ser Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Phe
      90                      95                      100

```

```

aaa tat tgg aaa gag aga cac ctc aaa caa atc caa ata gga ctt gat 391
Lys Tyr Trp Lys Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp
105 110 115

cag caa gca gag tac ctg aac caa tgc ttg gag gaa gac gag aat gaa 439
Gln Gln Ala Glu Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu
120 125 130 135

aat gaa gac atg aaa gaa atg aaa gag aat gag atg aaa ccc tca gaa 487
Asn Glu Asp Met Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu
140 145 150

gcc agg gtc ccc cag ctg agc agc ctg gaa ctg agg aga tat ttc cac 535
Ala Arg Val Pro Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His
155 160 165

agg ata gac aat ttc ctg aaa gaa aag aaa tac agt gac tgt gcc tgg 583
Arg Ile Asp Asn Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp
170 175 180

gag att gtc cga gtg gaa atc aga aga tgt ttg tat tac ttt tac aaa 631
Glu Ile Val Arg Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys
185 190 195

ttt aca gct cta ttc agg agg aaa taagaatcat ctaccttcaa gcaagaatta 685
Phe Thr Ala Leu Phe Arg Arg Lys
200 205

acagagattg tggctacgca aatgcaccaa aaaaggggtga aatatatctg aatgtacct 745

ggttctgccc ttggaagcca ctctctgctc atgccactaa cagcatgctg ccaaactggt 805

cagattcaag attattccaa gcgcagggcc caaatgttat agccaaagaa agtcttatga 865

taaaagtgag gcaaatttca gccagaagt tagaagagat gtttaaaaga acaagaacaa 925

attgtggatc atggtatatg caggctatca gcagaaggat cagacaataa aatgagttag 985

tgcaaaccat ttagtaaaaa taactatcag cagagttggt ccagattaaa aatagtacta 1045

caagcttgta aaggagttag gacatgcaag ctactgagca taaaatatat acttgctatt 1105

tttcatgact ttctctaata aagtctttga ctgttctctc taataaaaaa aaaaaaaaaa 1165

aaaaa 1170

```

<210> 2

<211> 207

<212> PRT

<213> Homo sapiens

<400> 2

```

Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
1 5 10 15

```

3

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
 20 25 30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
 35 40 45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
 50 55 60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
 65 70 75 80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
 85 90 95

Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
 100 105 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
 115 120 125

Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
 130 135 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
 145 150 155 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
 165 170 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
 180 185 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
 195 200 205

<210> 3
 <211> 238
 <212> PRT
 <213> Homo sapiens

<400> 3
 Met Ala Leu Leu Phe Pro Leu Leu Ala Ala Leu Val Met Thr Ser Tyr
 1 5 10 15

Ser Pro Val Gly Ser Leu Gly Cys Asp Leu Pro Gln Asn His Gly Leu
 20 25 30

Leu Ser Arg Asn Thr Leu Val Leu Leu His Gln Met Arg Arg Ile Ser
 35 40 45

Pro Phe Leu Cys Leu Lys Asp Arg Arg Asp Phe Arg Phe Pro Gln Glu
 50 55 60

Met Val Lys Gly Ser Gln Leu Gln Lys Ala His Val Met Ser Val Leu

65					70						75				80
His	Glu	Met	Leu	Gln	Gln	Ile	Phe	Ser	Leu	Phe	His	Thr	Glu	Arg	Ser
				85					90					95	
Ser	Ala	Ala	Trp	Asn	Met	Thr	Leu	Leu	Asp	Gln	Leu	His	Thr	Glu	Leu
			100					105					110		
His	Gln	Gln	Leu	Gln	His	Leu	Glu	Thr	Cys	Leu	Leu	Gln	Val	Val	Gly
		115					120					125			
Glu	Gly	Glu	Ser	Ala	Gly	Ala	Ile	Ser	Ser	Val	Pro	Gln	Leu	Ser	Ser
	130					135					140				
Leu	Glu	Leu	Arg	Arg	Tyr	Phe	His	Arg	Ile	Asp	Asn	Phe	Leu	Lys	Glu
145					150					155					160
Lys	Lys	Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Ile	Val	Arg	Val	Glu	Ile	Arg
				165					170					175	
Arg	Cys	Leu	Tyr	Tyr	Phe	Tyr	Lys	Phe	Thr	Ala	Leu	Pro	Ala	Leu	Thr
			180					185					190		
Leu	Arg	Arg	Tyr	Phe	Gln	Gly	Ile	Arg	Val	Tyr	Leu	Lys	Glu	Lys	Lys
		195					200					205			
Tyr	Ser	Asp	Cys	Ala	Trp	Glu	Val	Val	Arg	Met	Glu	Ile	Met	Lys	Ser
	210					215					220				
Leu	Phe	Leu	Ser	Thr	Asn	Met	Gln	Glu	Arg	Leu	Arg	Ser	Lys		
225					230					235					

<210> 4
 <211> 187
 <212> PRT
 <213> Homo sapiens

<400> 4															
Met	Thr	Asn	Lys	Cys	Leu	Leu	Gln	Ile	Ala	Leu	Leu	Leu	Cys	Phe	Ser
1				5					10					15	
Thr	Thr	Ala	Leu	Ser	Met	Ser	Tyr	Asn	Leu	Leu	Gly	Phe	Leu	Gln	Arg
		20						25					30		
Ser	Ser	Asn	Phe	Gln	Cys	Gln	Lys	Leu	Leu	Trp	Gln	Leu	Asn	Gly	Arg
		35					40					45			
Leu	Glu	Tyr	Cys	Leu	Lys	Asp	Arg	Met	Asn	Phe	Asp	Ile	Pro	Glu	Glu
	50					55					60				
Ile	Lys	Gln	Leu	Gln	Gln	Phe	Gln	Lys	Glu	Asp	Ala	Ala	Leu	Thr	Ile
65					70					75					80
Tyr	Glu	Met	Leu	Gln	Asn	Ile	Phe	Ala	Ile	Phe	Arg	Gln	Asp	Ser	Ser
				85					90					95	

Ser Thr Gly Trp Asn Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val
 100 105 110

Tyr His Gln Ile Asn His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu
 115 120 125

Lys Glu Asp Phe Thr Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys
 130 135 140

Arg Tyr Tyr Gly Arg Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser
 145 150 155 160

His Cys Ala Trp Thr Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr
 165 170 175

Phe Ile Asn Arg Leu Thr Gly Tyr Leu Arg Asn
 180 185

<210> 5
 <211> 194
 <212> PRT
 <213> Homo sapiens

<400> 5
 Met Ala Phe Val Leu Ser Leu Leu Met Ala Leu Val Leu Val Ser Tyr
 1 5 10 15

Gly Pro Phe Gly Ser Leu Gly Cys Asp Leu Ser Gln Asn His Val Leu
 20 25 30

Val Gly Arg Lys Asn Leu Arg Leu Leu Asp Glu Met Arg Arg Leu Ser
 35 40 45

Pro His Phe Cys Leu Gln Asp Arg Lys Asp Phe Ala Leu Pro Gln Glu
 50 55 60

Met Val Glu Gly Gly Gln Leu Gln Glu Ala Gln Ala Ile Ser Val Leu
 65 70 75 80

His Glu Met Leu Gln Gln Ser Phe Asn Leu Phe His Thr Glu His Ser
 85 90 95

Ser Ala Ala Trp Asp Thr Thr Leu Leu Glu Pro Cys Arg Thr Gly Leu
 100 105 110

His Gln Gln Leu Asp Asn Leu Asp Ala Cys Leu Gly Gln Val Met Gly
 115 120 125

Glu Glu Asp Ser Ala Leu Gly Arg Thr Gly Pro Leu Ala Leu Lys Arg
 130 135 140

Tyr Phe Gln Gly Ile His Val Tyr Leu Lys Glu Lys Gly Tyr Ser Asp
 145 150 155 160

Tyr Ser Asp Cys Ala Trp Glu Val Val Arg Met Glu Ile Met Lys Ser

210

215

220

Leu Phe Leu Ser Thr Asn Met Gln Glu Arg Leu Arg Ser Lys Asp Arg
 225 230 235 240

Asp Leu Gly Ser Ser
 245

<210> 7

<211> 189

<212> PRT

<213> Homo sapiens

<400> 7

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
 1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Gly Gln Met Gly Arg Ile Ser
 35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Arg Ile Pro Gln Glu
 50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Asp Ala Gln Ala Ile Ser Val Leu
 65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Glu Asp Ser
 85 90 95

Ser Ala Ala Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
 100 105 110

Tyr Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly
 115 120 125

Val Glu Glu Thr Pro Leu Met Asn Glu Asp Ser Ile Leu Ala Val Arg
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Ile Glu Arg Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Leu Ser
 165 170 175

Phe Ser Thr Asn Leu Gln Lys Arg Leu Arg Arg Lys Asp
 180 185

<210> 8

<211> 189

<212> PRT

<213> Homo sapiens

<400> 8

Met Ala Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
 1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
 20 25 30

Gly Asn Arg Arg Ala Leu Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
 35 40 45

Pro Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu
 50 55 60

Glu Phe Asp Gly Asn Gln Phe Gln Lys Ala His Val Met Ser Val Leu
 65 70 75 80

His Glu Met Leu Gln Gln Ile Phe Ser Leu Phe His Thr Glu Arg Ser
 85 90 95

Ser Ala Ala Trp Glu Gln Ser Leu Leu Glu Lys Phe Ser Thr Glu Leu
 100 105 110

Asn Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Glu Val Gly
 115 120 125

Val Glu Glu Thr Pro Leu Met Asn Val Asp Ser Ile Leu Ala Val Lys
 130 135 140

Lys Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Thr Glu Lys Lys Tyr Ser
 145 150 155 160

Pro Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser
 165 170 175

Leu Ser Lys Ile Phe Gln Glu Arg Leu Arg Arg Lys Glu
 180 185

<210> 9

<211> 195

<212> PRT

<213> Homo sapiens

<400> 9

Met Ala Leu Leu Phe Pro Leu Leu Ala Ala Leu Val Met Thr Ser Tyr
 1 5 10 15

Ser Pro Val Gly Ser Leu Gly Cys Asp Leu Pro Gln Asn His Gly Leu
 20 25 30

Leu Ser Arg Asn Thr Leu Val Leu Leu His Gln Met Arg Arg Ile Ser
 35 40 45

Pro Phe Leu Cys Leu Lys Asp Arg Arg Asp Phe Arg Phe Pro Gln Glu
 50 55 60

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200

Met Val Lys Gly Ser Gln Leu Gln Lys Ala His Val Met Ser Val Leu
65 70 75 80

His Glu Met Leu Gln Gln Ile Phe Ser Leu Phe His Thr Glu Arg Ser
85 90 95

Ser Ala Ala Trp Asn Met Thr Leu Leu Asp Gln Leu His Thr Glu Leu
100 105 110

His Gln Gln Leu Gln His Leu Glu Thr Cys Leu Leu Gln Val Val Gly
115 120 125

Glu Gly Glu Ser Ala Gly Ala Ile Ser Ser Pro Ala Leu Thr Leu Arg
130 135 140

Arg Tyr Phe Gln Gly Ile Arg Val Tyr Leu Lys Glu Lys Lys Tyr Ser
145 150 155 160

Asp Cys Ala Trp Glu Val Val Arg Met Glu Ile Met Lys Ser Leu Phe
165 170 175

Leu Ser Thr Asn Met Gln Glu Arg Leu Arg Ser Lys Asp Arg Asp Leu
180 185 190

Gly Ser Ser
195

<210> 10

<211> 378

<212> PRT

<213> Homo sapiens

<400> 10

Met Pro Leu Ser Phe Ser Leu Leu Met Ala Val Leu Val Leu Ser Tyr
1 5 10 15

Lys Ser Ile Cys Ser Leu Gly Cys Asp Leu Pro Gln Thr His Ser Leu
20 25 30

Gly Asn Arg Arg Ala Trp Ile Leu Leu Ala Gln Met Gly Arg Ile Ser
35 40 45

His Phe Ser Cys Leu Lys Asp Arg Tyr Asp Phe Gly Phe Pro Gln Glu
50 55 60

Val Phe Asp Gly Asn Gln Phe Gln Lys Ala Gln Ala Ile Ser Ala Phe
65 70 75 80

His Glu Met Ile Gln Gln Thr Phe Asn Leu Phe Ser Thr Lys Asp Ser
85 90 95

Ser Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Ile Glu Leu
100 105 110

```
<210> 11
<211> 195
<212> PRT
<213> Homo sapiens
```

<400> 11

Met Ala Phe Val Leu Ser Leu Leu Met Ala Leu Val Leu Val Ser Tyr
 1 5 10 15

Gly Pro Gly Arg Ser Leu Gly Cys Tyr Leu Ser Glu Asp His Met Leu
 20 25 30

Gly Ala Arg Glu Asn Leu Arg Leu Leu Ala Arg Met Asn Arg Leu Ser
 35 40 45

Pro His Pro Cys Leu Gln Asp Arg Lys Asp Phe Gly Leu Pro Gln Glu
 50 55 60

Met Val Glu Gly Asn Gln Leu Gln Lys Asp Gln Ala Ile Ser Val Leu
 65 70 75 80

His Glu Met Leu Gln Gln Cys Phe Asn Leu Phe Tyr Thr Glu His Ser
 85 90 95

Ser Ala Ala Trp Asn Thr Thr Leu Leu Glu Gln Leu Cys Thr Gly Leu
 100 105 110

Gln Gln Gln Leu Glu Asp Leu Asp Ala Cys Leu Gly Pro Val Met Gly
 115 120 125

Glu Lys Asp Ser Asp Met Gly Arg Met Gly Pro Ile Leu Thr Val Lys
 130 135 140

Lys Tyr Phe Gln Gly Ile His Val Tyr Leu Lys Glu Lys Glu Tyr Ser
 145 150 155 160

Asp Cys Ala Trp Glu Ile Ile Arg Met Glu Met Met Arg Ala Leu Ser
 165 170 175

Ser Ser Thr Thr Leu Gln Lys Arg Leu Arg Lys Met Gly Gly Asp Leu
 180 185 190

Asn Ser Leu
 195

<210> 12

<211> 196

<212> PRT

<213> Homo sapiens

<400> 12

Met Ala Phe Val Leu Ser Leu Leu Met Ala Leu Val Leu Val Ser Tyr
 1 5 10 15

Gly Pro Gly Gly Ser Leu Gly Cys Tyr Leu Ser Gln Arg Leu Met Leu
 20 25 30

Asp Ala Arg Glu Asn Leu Lys Leu Leu Glu Pro Met Asn Arg Leu Ser
 35 40 45

Pro His Ser Cys Leu Gln Asp Arg Lys Asp Phe Gly Leu Pro Gln Glu
 50 55 60
 Met Val Glu Gly Asp Gln Leu Gln Lys Asp Gln Ala Phe Pro Val Leu
 65 70 75 80
 Tyr Glu Met Leu Gln Gln Thr Phe Asn Leu Phe His Thr Glu His Ser
 85 90 95
 Ser Ala Ala Trp Asp Thr Thr Leu Leu Glu Gln Leu Cys Thr Gly Leu
 100 105 110
 Gln Gln Gln Leu Glu Asp Leu Asp Thr Cys Cys Arg Gly Gln Val Met
 115 120 125
 Gly Glu Glu Asp Ser Glu Leu Gly Asn Met Asp Pro Ile Val Thr Val
 130 135 140
 Lys Lys Tyr Phe Gln Gly Ile Tyr Asp Tyr Leu Gln Glu Lys Gly Tyr
 145 150 155 160
 Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Met Met Arg Ala Leu
 165 170 175
 Thr Val Ser Thr Thr Leu Gln Lys Arg Leu Thr Lys Met Gly Gly Asp
 180 185 190
 Leu Asn Ser Pro
 195

<210> 13
 <211> 170
 <212> PRT
 <213> Homo sapiens

<400> 13

Met Ala Gln Ile Tyr Leu Val Met Ala Gly Val Met Leu Cys Ser Ile
 1 5 10 15
 Ser Val Cys Phe Leu Asp Gln Asn Leu Ser Ala Val His Cys Val Glu
 20 25 30
 Lys Arg Glu Ile Phe Lys His Leu Gln Glu Ile Lys Lys Ile Pro Ser
 35 40 45
 Gln Leu Cys Leu Lys Asp Arg Ile Asp Phe Lys Phe Pro Trp Lys Arg
 50 55 60
 Glu Ser Ile Thr Gln Leu Gln Lys Asp Gln Ala Phe Pro Val Leu Tyr
 65 70 75 80
 Glu Met Leu Gln Gln Thr Phe Asn Leu Phe His Thr Glu His Ser Ser
 85 90 95

13

Ala Ala Trp Asn Thr Thr Leu Leu Asp Gln Leu Leu Ser Ser Leu Asp
 100 105 110
 Leu Gly Leu Arg Arg Leu Glu His Met Lys Lys Asp Asn Met Asp Cys
 115 120 125
 Pro His Val Gly Ser Ala Leu Arg Lys Tyr Phe Gln Gly Ile Gly Leu
 130 135 140
 Tyr Leu Lys Glu Lys Lys Tyr Ser Pro Cys Ala Trp Glu Ile Val Arg
 145 150 155 160
 Val Glu Ile Glu Arg Cys Phe Ser Leu Thr
 165 170

<210> 14
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 14
 Met Asn Ser Phe Ser Thr Ser Ala Phe Gly Pro Val Ala Phe Ser Leu
 1 5 10 15
 Gly Leu Leu Leu Val Leu Pro Ala Ala Phe Pro Ala Pro Val Pro Pro
 20 25 30
 Gly Glu Asp Ser Lys Asp Val Ala Ala Pro His Arg Gln Pro Leu Thr
 35 40 45
 Ser Ser Glu Arg Ile Asp Lys Gln Ile Arg Tyr Ile Leu Asp Gly Ile
 50 55 60
 Ser Ala Leu Arg Lys Glu Thr Cys Asn Lys Ser Asn Met Cys Glu Ser
 65 70 75 80
 Ser Lys Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala
 85 90 95
 Lys Glu Asp Gly Cys Phe Gln Ser Gly Phe Asn Glu Glu Thr Cys Leu
 100 105 110
 Val Lys Ile Ile Thr Gly Leu Leu Glu Phe Glu Val Tyr Leu Glu Tyr
 115 120 125
 Leu Gln Asn Arg Phe Glu Ser Ser Glu Glu Gln Ala Arg Ala Val Gln
 130 135 140
 Met Ser Thr Lys Val Leu Ile Gln Phe Leu Gln Lys Lys Ala Lys Asn
 145 150 155 160
 Leu Asp Ala Ile Thr Thr Pro Asp Pro Thr Thr Asn Ala Ser Leu Leu
 165 170 175
 Thr Lys Leu Gln Ala Gln Asn Gln Trp Leu Gln Asp Met Thr Thr His

180

185

190

Leu Ile Leu Arg Ser Phe Lys Glu Phe Leu Gln Ser Ser Leu Arg Ala
 195 200 205

Leu Arg Gln Met
 210

<210> 15
 <211> 186
 <212> PRT
 <213> Homo sapiens

<400> 15
 Met Thr His Arg Cys Leu Leu Gln Met Val Leu Leu Leu Cys Phe Ser
 1 5 10 15

Thr Thr Ala Leu Ser Arg Ser Tyr Ser Leu Leu Arg Phe Gln Gln Arg
 20 25 30

Arg Ser Leu Ala Leu Cys Gln Lys Leu Leu Arg Gln Leu Pro Ser Thr
 35 40 45

Pro Gln His Cys Leu Glu Ala Arg Met Asp Phe Gln Met Pro Glu Glu
 50 55 60

Met Lys Gln Ala Gln Gln Phe Gln Lys Glu Asp Ala Ile Leu Val Ile
 65 70 75 80

Tyr Glu Met Leu Gln Gln Ile Phe Asn Ile Leu Thr Arg Asp Phe Ser
 85 90 95

Ser Thr Gly Trp Ser Glu Thr Ile Ile Glu Asp Leu Leu Glu Glu Leu
 100 105 110

Tyr Glu Gln Met Asn His Leu Glu Pro Ile Gln Lys Glu Ile Met Gln
 115 120 125

Lys Gln Asn Ser Thr Met Gly Asp Thr Thr Val Leu His Leu Arg Lys
 130 135 140

Tyr Tyr Phe Asn Leu Val Gln Tyr Leu Lys Ser Lys Glu Tyr Asn Arg
 145 150 155 160

Cys Ala Trp Thr Val Val Arg Val Gln Ile Leu Arg Asn Phe Ser Phe
 165 170 175

Leu Thr Arg Leu Thr Gly Tyr Leu Arg Glu
 180 185

<210> 16
 <211> 29
 <212> DNA
 <213> Homo sapiens

<400> 16
ggccgcatat gctggactgt aacttactg 29

<210> 17
<211> 33
<212> DNA
<213> Homo sapiens

<400> 17
ggccgcggtta ccttatttcc tcctgaatag agc 33

<210> 18
<211> 38
<212> DNA
<213> Homo sapiens

<400> 18
ggccgggatc cgccatcatg agcaccaaac ctgatatg 38

<210> 19
<211> 33
<212> DNA
<213> Homo sapiens

<400> 19
ggccgcggtta ccttatttcc tcctgaatag agc 33

<210> 20
<211> 156
<212> PRT
<213> Homo sapiens

<400> 20
Met Thr Tyr Arg Cys Leu Leu Gln Met Val Leu Leu Leu Cys Phe Ser
1 5 10 15

Thr Thr Ala Leu Ser Arg Ser Tyr Ser Leu Leu Arg Phe Gln Gln Arg
20 25 30

Gln Ser Leu Lys Glu Cys Gln Lys Leu Leu Gly Gln Leu Pro Ser Thr
35 40 45

Ser Gln His Cys Leu Glu Ala Arg Met Asp Phe Gln Met Pro Glu Glu
50 55 60

Met Lys Gln Glu Gln Gln Phe Gln Lys Glu Asp Ala Ile Leu Val Met
65 70 75 80

Tyr Glu Val Leu Gln His Ile Phe Gly Ile Leu Thr Arg Asp Phe Ser
85 90 95

Ser Thr Gly Trp Asn Ser Thr Thr Glu Asp Thr Ile Val Pro His Leu
100 105 110

Gly Lys Tyr Tyr Phe Asn Leu Met Gln Tyr Leu Glu Ser Lys Glu Tyr
115 120 125

Asp Arg Cys Ala Trp Thr Val Val Gln Val Gln Ile Leu Thr Asn Val
130 135 140

Ser Phe Leu Met Arg Leu Thr Gly Tyr Val Arg Asp
145 150 155

<210> 21

<211> 166

<212> PRT

<213> Homo sapiens

<400> 21

Met Ser Tyr Asn Leu Leu Gly Phe Leu Gln Arg Ser Ser Asn Phe Gln
1 5 10 15

Cys Gln Lys Leu Leu Trp Gln Leu Asn Gly Arg Leu Glu Tyr Cys Leu
20 25 30

Lys Asp Arg Met Asn Phe Asp Ile Pro Glu Glu Ile Lys Gln Leu Gln
35 40 45

Gln Phe Gln Lys Glu Asp Ala Ala Leu Thr Ile Tyr Glu Met Leu Gln
50 55 60

Asn Ile Phe Ala Ile Phe Arg Gln Asp Ser Ser Ser Thr Gly Trp Asn
65 70 75 80

Glu Thr Ile Val Glu Asn Leu Leu Ala Asn Val Tyr His Gln Ile Asn
85 90 95

His Leu Lys Thr Val Leu Glu Glu Lys Leu Glu Lys Glu Asp Phe Thr
100 105 110

Arg Gly Lys Leu Met Ser Ser Leu His Leu Lys Arg Tyr Tyr Gly Arg
115 120 125

Ile Leu His Tyr Leu Lys Ala Lys Glu Tyr Ser His Cys Ala Trp Thr
130 135 140

Ile Val Arg Val Glu Ile Leu Arg Asn Phe Tyr Phe Ile Asn Arg Leu
145 150 155 160

Thr Gly Tyr Leu Gly Asn
165